F&eIT Series

Monitoring & Control Server

SVR-MMF2(FIT)

Hardware Setup Guide

CONTEC CO.,LTD.

Check Your Package

Thank you for purchasing the CONTEC product.

The product consists of the items listed below.

Check, with the following list, that your package is complete. If you discover damaged or missing items, contact your retailer.

Product Configuration List

- System unit [SVR-MMF2(FIT)] ...1
- First step guide ...1
- CD-ROM [F&eIT Series Setup Disk]*1 ...1
- Power input connector ...1
- Magnet ...2

*1 The CD-ROM contains various software and User's Guide (this manual)

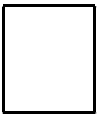
System unit

x 2

Magnet

Power input connector

CD-ROM
[F&eIT Series Setup Disk]



First step guide

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1. Before Using the Product

This chapter provides information you should know before using the product.

About the Module

The product is an appliance server for remote monitoring and control on which all steps from development to actual operation can be performed from a Web browser. The server enables a remote monitoring system to be implemented quickly and at low cost with functions such as monitoring I/O data via the Web, alarm generation based on I/O data, task branching, E-mail transmission, and data logging, with support for PLCs from various different manufacturers and for the CONTEC F&eIT series of I/O control units (CPU-CAxx(FIT)GY*1) and similar devices.

*1 The "x" in a model code represents a single digit (or no digit) indicating different products. (The same convention applies below).

Features

Web monitoring

Incorporates a Web server (with Java applet support). Remotely located PCs can monitor and modify I/O data from a Web browser. Monitoring screens can be freely configured using standard GUI parts (graphics, sliders, and buttons, etc.) together with imported image data. All operation, including layout of the monitoring screens and linking to I/O data, can be performed entirely from a Web browser.

Web task script

The system execution process can be defined flowchart-style by combining icons for operations such as data logging, E-mail transmission, data output, conditional branching, and arithmetic operations. All operations can be performed entirely from a Web browser.

Wide range of support devices

- Up to eight device modules can be connected in a stack.
- Can link to I/O control units, I/O Assist server units, and other types of network-connected I/O.
- Can link to PLCs via network or serial (RS-232C) communications.

Message-based communication function

- Up to four serial communications devices (COM-2(FIT)GY or COM-1PD(FIT)GY) can be connected in a stack (maximum of eight RS0232C ports or four RS-422 ports).
- Up to ten serial communications devices (RS-232C or RS-422) or Ethernet devices (TCP/UDP) can be linked together and message-based communications performed between devices.
- Messages can be sent and received from Web task scripts.

E-mail transmission (including attached files)

The E-mail transmission function can be used for applications such as transferring files or sending alarms to the system administrator.

E-mail reception

Processing tasks can be monitored or controlled by receiving E-mail.

PPP server dialup connections

A PPP server function enables connections to an external host to be established via a telephone line for maintenance, data transfer, and similar. Also the dialup function enables the internet connections from the SVR-MMF2(FIT) by using telephon lines.

SNMP agent

Supports the SNMP protocol. Centralized control can be performed using CONTEC's "SNMPc" or other network administration software.

Differences from the SVR-MMF(FIT)GY

The SVR-MMF2(FIT) supports the use of messaging in Web task scripts and Web monitoring. Backups of Web monitoring and Web task scripts created on the SVR-MMF(FIT)GY can be used on the SVR-MMF2(FIT) .

Table 1.1. Differences from the SVR-MMF(FIT)GY

	SVR-MMF(FIT)GY	SVR-MMF2(FIT)	Remarks
CPU	MachZ(ZF Micro Devices) 120MHz	SH-4 240MHz	
Memory	64MBytes	64MBytes	
CRT/IF	15 pin HD-SUB connector	-	
Serial port on main unit	1	-	
USB	2	-	
Keyboard / mouse	1	-	
CF(Compact frash)			
Size	64MBytes	128MBytes	
Data acquisition area	32MBytes	64MBytes	(Includes image files used for monitoring)
Number of serial devices able to be connected in a stack	1	4	COM-2(FIT)GY and COM-1PD(FIT)GY can be connected in a stack.
Current consumption	5VDC±5% 1.5A	5VDC±5% 0.5A	
External dimension (mm)	52.4(W) x 64.7(D) x 94.0(H) No protrusion	25.2(W) x 64.7(D) x 94.0(H) No protrusion	
Weight	180g	100g	

System Configuration Image

Multiple I/O controller units and the monitoring & controlling server can be installed on the same network. When connected to the monitoring & controlling server, the host controller can read and write signals from and to the devices that are connected to the subordinate I/O controller units.

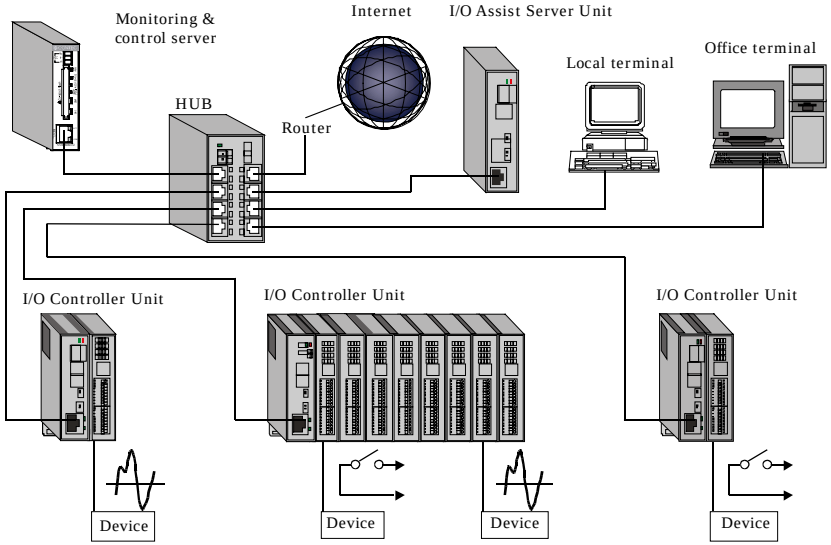


Figure 1.1. System Configuration Image

Explanation of names

- Monitoring & control server :
  This refers to the product SVR-MMF2(FIT) .
  Data can be collected from I/O Assist Servers and I/O controllers connected to the network as well as from connected device modules.
  The collected data can be displayed graphically by the monitoring function. Also, the internal programming function allows monitoring to be customized easily to suit the application by, for example, outputting alarms when upper or lower limits are exceeded or sending notification at fixed time intervals.
  The collected data can be stored on the unit's CompactFlash card and sent to other network hosts using E-mail or FTP.
- I/O Assist Server Unit :
  This refers to the product SVR-IOAx(FIT)GY.
  The I/O Assist Server Unit supports the management function that enables it to collect data from, and set data to, I/O Controller Units that belong to the same group as the Group ID that is set by using the Group ID switches of the SVR-IOA(FIT) ("Assist Server"), which is a CONTEC product. Group IDs can be set in a range of 0 - 7.
  By connecting local terminals and office terminals by means of a Web browser, it is possible to monitor the status of the devices that are connected to an I/O Controller Unit.

- I/O Controller Unit :
  The I/O Controller Unit is a general term that refers to any combination of this product, the CPU-CAxx(FIT)GY, with device modules. Each device contains a Group ID SW and a Unit ID SW; these switches must be set so that they are unique within the network.
  The I/O Controller Unit transmits data collected from the devices to the I/O Assist Server Unit that bears a specified Group ID.
  Group IDs can be set in a range of 0 - 8, whereas Unit IDs are set in a range of 0 - 7.
  When the Group ID is set to 8, no data is transmitted to the I/O Assist Server; instead, controls can be performed directly from a terminal to the I/O Controller Unit.
  The following device modules are available:
  an 8-point digital input, an 8-point digital output module (DIO-8/8(FIT)GY), a 16-point digital input module (DI-16(FIT)GY), a 16-point digital output module (DO-16(FIT)GY), an 8-point input analog/digital converter module (ADI12-8(FIT)GY), a 4-point output digital/analog converter module (DAI12-4(FIT)GY), and a 2-point input counter module (CNT24-2(FIT)GY).
  Further details on this topic may be found in the respective device module manuals.

- HUB :
  This is a line concentration device that is used when a LAN is constructed using twisted-pair cables. The F&eIT series includes an 8-port switching HUB unit (SH-8008(FIT)GY) that is equipped with a DIN rail mounting mechanism.

Example of System Configuration

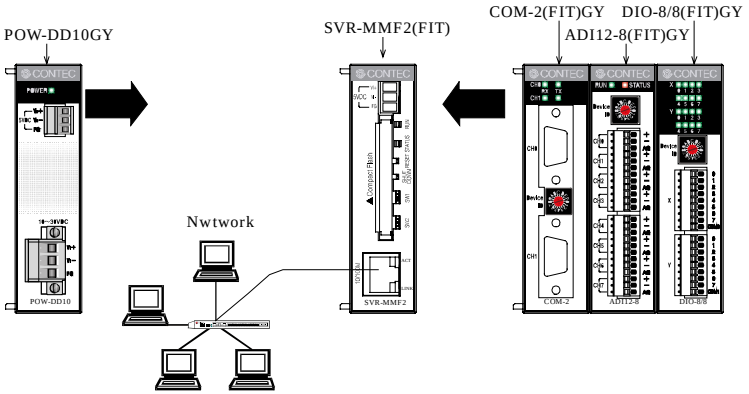


Figure 1.2. System Configuration Diagram

Customer Support

CONTEC provides the following support services for you to use CONTEC products more efficiently and comfortably.

Web Site

Japanese	http://www.contec.co.jp/
English	http://www.contec.com/
Chinese	http://www.contec.com.cn/

Latest product information

CONTEC provides up-to-date information on products.
CONTEC also provides product manuals and various technical documents in the PDF.

Free download

You can download updated driver software and differential files as well as sample programs available in several languages.

Note! For product information

Contact your retailer if you have any technical question about a CONTEC product or need its price, delivery time, or estimate information.

Limited One-Year Warranty

CONTEC F&eIT products are warranted by CONTEC CO., LTD. to be free from defects in material and workmanship for up to one year from the date of purchase by the original purchaser.
Repair will be free of charge only when this device is returned freight prepaid with a copy of the original invoice and a Return Merchandise Authorization to the distributor or the CONTEC group office, from which it was purchased.
This warranty is not applicable for scratches or normal wear, but only for the electronic circuitry and original products. The warranty is not applicable if the device has been tampered with or damaged through abuse, mistreatment, neglect, or unreasonable use, or if the original invoice is not included, in which case repairs will be considered beyond the warranty policy.

How to Obtain Service

For replacement or repair, return the device freight prepaid, with a copy of the original invoice. Please obtain a Return Merchandise Authorization number (RMA) from the CONTEC group office where you purchased before returning any product.

* No product will be accepted by CONTEC group without the RMA number.

Liability

The obligation of the warrantor is solely to repair or replace the product. In no event will the warrantor be liable for any incidental or consequential damages due to such defect or consequences that arise from inexperienced usage, misuse, or malfunction of this device.

Safety Precautions

Understand the following definitions and precautions to use the product safely.

Safety Information

This document provides safety information using the following symbols to prevent accidents resulting in injury or death and the destruction of equipment and resources. Understand the meanings of these labels to operate the equipment safely.

⚠ DANGER	DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
⚠ WARNING	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.

Handling Precautions

⚠ CAUTION

- Do not use or store the equipment in a hot or cold place, or a place that is subject to severe temperature changes.
  Examples: - Under direct sunlight
  - Near a heat source
- Do not use or store the equipment in a place that is subject to extreme humidity or dust. It will be extremely dangerous to use the equipment when its interior is contaminated with water or liquid, or conducting debris. When using the equipment in an environment that is subject to water or conducting debris, consideration should be given to the installation of a control panel with a structure that keeps dust out.
- Do not use or store the equipment in a place that is subject to shock or vibrations.
- Do not use or store the product near equipment generating a strong magnetic field or radio waves.
- Do not use or store the equipment in air with diffused chemicals or in an environment in which the equipment can come into contact with chemicals.
- When attaching or detaching a module or a connector, please be sure that the power cable for the system is unplugged from the outlet.
- Do not modify the unit. CONTEC will bear no responsibility for any problems, etc., resulting from modifying this unit.
- If you notice any malfunction or abnormal conditions (such or a strange odor or overheating), please unplug the power cord and consult your retailer.
- Use an earthed shielded cable to connection to peripheral devices.
- To clean the unit, gently wipe it with a soft cloth soaked with water or a neutral detergent. Do not use benzene, a thinner, or other volatile solvents as they can cause the coating to discolor or peel off.

- Life of the components

  Battery …A primary lithium battery is used to back up the internal clock/calendar and the CMOS RAM. When the power is not drawn and the battery is stored at 25°C, it will last over 10 years.

* Replacement of expendables is handled as a repair (there will be a charge).

FCC PART 15 Class A Notice

NOTE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference at his own expense.

WARNING TO USER

Change or modifications not expressly approved the manufacturer can void the user's authority to operate this equipment.

Environment

Use this product in the following environment. If used in an unauthorized environment, the module may overheat, malfunction, or cause a failure.

Operating temperature

0 - 50°C

Operating humidity

10 - 90%RH (No condensation)

Corrosive gases

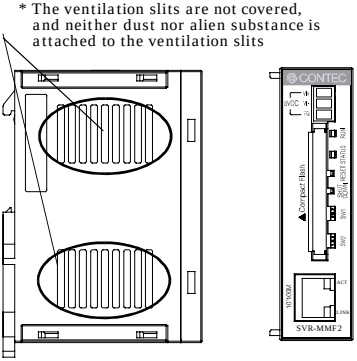
None

Floating dust particles

Not to be excessive

Inspection

Inspect the product periodically as follows to use it safely.


* The ventilation slits are not covered, and neither dust nor alien substance is attached to the ventilation slits
CONTEC
SVR-MMF2

Storage

When storing this product, keep it in its original packing form.

(1) Put the product in the storage bag.

(2) Wrap it in the packing material, then put it in the box.

(3) Store the package at room temperature at a place free from direct sunlight, moisture, shock, vibration, magnetism, and static electricity.

Disposal

When disposing of the product, follow the disposal procedures stipulated under the relevant laws and municipal ordinances.

2. Module Nomenclature and Settings

Nomenclature of Module Components

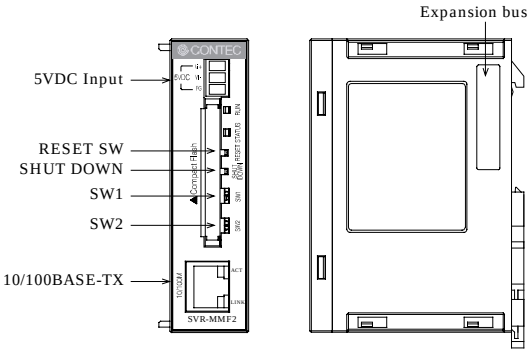


Figure 2.1. Names of module components

Table 2.1. Nomenclature of Module Components

Name	Function	Referring pages
CompactFlash	CompactFlash inserting connector(TYPE 2 True IDE)	11
RUN LED	Status display LED	11
STATUS LED	Status display LED	11
RESET	Reset the CPU(Only used in the case of a problem)	-
SHUTDOWN	SHUTDOWN SW	11
SW1	User SW1	11
SW2	User SW2	12
10/100BASE-TX	RJ-45 connector	12
5VDC	Power connector(MC1,5/3-G-3,5 PHOENIX CONTACT)	13
Expansion bus	Connector for connecting the F&eIT Series (0.6mm pitch 80 pin(FX-8C Series HIROSE))	-

LED and Setup SW

Table 2.2. LED and Setup SW

Name	Function	Setup & display contents
LED	RUN LED	ON : Abnormal condition Flashing : Normal operating OFF : Abnormal condition
	STATUS LED	OFF : Normal operating ON : System shutdown complete Flashing : System shutdown in progress
USER SW	RESET button	Hardware reset
	SHUT DOWN	System shutdown button : The RUN LED and STATUS LED blink when a system shutdown occurs.
	SW1	Up : System boot mode(factory default setting) Down : Not used(for factory testing)
	SW2	Up : Initialization mode (Restore factory default settings) *1 Down : Normal mode(factory default setting)
LAN LED	ACT	OFF : No communications in progress ON : Communications in progress
	LINK	OFF : Not connected ON : LAN connection

*1 Initialization mode (This setting causes all settings to return to their factory defaults when the power is turned on. The RUN LED and STATUS LED both blink. The LEDs stop blinking when initialization completes. Turn off the power and set SW2 back to normal boot mode before rebooting.)
Default IP address : 10.1.1.1 Default subnet mask : 255.0.0.0
Default user name : mmf Default password : mmf

Function of the Various Components

CompactFlash Slot

The system is equipped with a slot for CompactFlash-compliant CompactFlash cards [TYPE II x 1 size], which is available for memory cards only. A CompactFlash card loaded with monitoring and control tools is inserted in the unit.

Power supply for the card

Available card voltages and current values for each slot are listed below:

Table 2.3. Power Supply for the Card

Voltage	Current(Max.)
+5V	500mA/Slot
+3.3V	Not supplied
+12V	Not supplied

RUN LED

Blinks while the unit is running.

STATUS LED

Turned off during normal operation.
The RUN LED and STATUS LED start blinking when SW1 is pressed to trigger a system shutdown.
The STATUS LED stops blinking and remains illuminated after the system shutdown completes.
Wait until the LED stops blinking before turning off the power.

SHUT DOWN

Used to shutdown the system.

If you have changed the setup, modified the monitoring screens or task programming, or the task programming is storing data on the CF (compact flash disk), do not turn off the power until writing the data to the CF has finished.
Although you also can shutdown the system from a browser, pressing SHUTDOWN finishes writing data to the CF before shutting down.
If data is not being written to the CF, it is safe to just turn off the system power.
The RUN LED and STATUS LED start blinking when you press SHUTDOWN.

The LEDs stop blinking once the system has shutdown and the power has turned off (about 10 seconds).

SW1

Selects the system boot mode. Always set this switch to the up position.
The lower switch position is only used in factory testing.

SW2

Selects the system operation mode. Always set this switch to the down position.
You can restore the default factory settings by setting SW2 to the up position and booting the system, for example if you have forgotten the IP address or password of the unit.
The RUN LED and STATUS LED start blinking. The STATUS LED stops blinking and remains illuminated when the system has been set back to the default factory settings. Turn off the power and then set the switch back to the lower position.

Ethernet

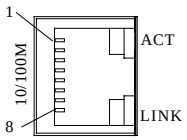
SVR-MMF2(FIT) is equipped with a Fast-Ethernet card.

- Network mode: 100BASE-TX/10BASE-T
- Transmission rate * : 100M/10M bps
- Max. network path length: 100m/segment
- Controller: DP83815(National Semiconductor)

* Operation at 100 Mbps requires a Category 5 cable.

Table 2.4. Ethernet connector

Connector type	RJ-45



Pin No.	Signal name	Meaning
1	TD+	Transmitted data (+)
2	TD-	Transmitted data (-)
3	RD+	Received data (+)
4	N.C.	Not connected
5	N.C.	Not connected
6	RD-	Received data (+)
7	N.C.	Not connected
8	N.C.	Not connected

Network status display LED :

LINK : Illuminates when a valid connection is present.
ACT : Turns off when no communications in progress. Illuminates when communications in progress.

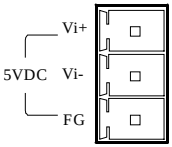
POWER

This is a power supply connector

- Power supply : 5.0V±5%

Table 2.5. Power connector

Connector type	MC1,5/3-G-3,5(PHOENIX CONTACT)



Pin No.	Signal name	Meaning
1	Vi+	Power supply (5V)
2	Vi-	Power supply(GND)
3	FG	Frame ground

Available plug (bundled) : MC1,5/3-ST-3,5(PHOENIX CONTACT)

3. Hardware Setup

Getting Started

Follow the following procedures to set up the SVR-MMF2(FIT) :

STEP1 Connecting the F&eIT series module
By referring to this chapter connects the F&eIT series module to the SVR-MMF2(FIT) .
When using the SVR-MMF2(FIT) on a standalone basis, go to STEP2.

STEP2 Set switches
Set SW1 to the up position(default setting : up).
Set SW2 to the down position(default setting : down).

STEP3 Connecting the cables
Connect the LAN cable and any modem or other external device cables to the SVR-MMF2(FIT) .

STEP4 Turning on the power
After re-checking that STEPS 1 - 2 have been correctly performed, turn on the power. If something goes wrong after the power is turned on, immediately turn off the power and make sure that the system is correctly set up.

Mounting the Module

Stack Connection Locking Devices

The module contains connecting locking devices (▲mark, two units at the top and bottom).

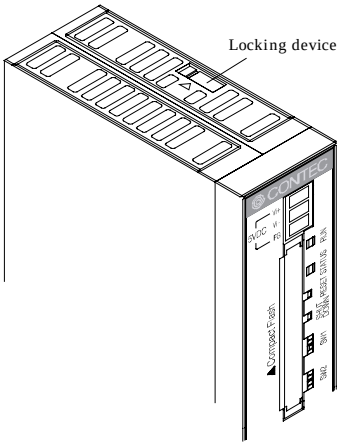


Figure 3.1. Stack Connection Locking Devices

How the stack connection locking device works

- Locking
  Push the pawl of the locking device with a tool that has a slender tip downward from above to open the spring for the locking device (the groove moves toward you).

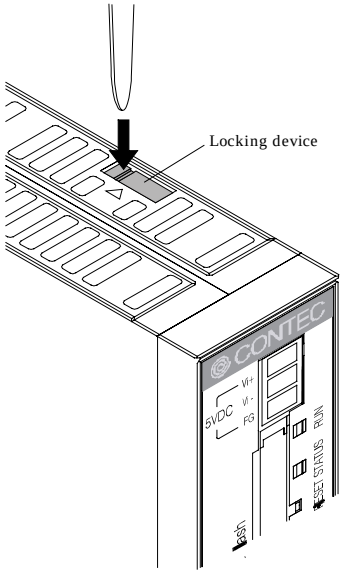


Figure 3.2. Operation of Lock for Stack Connections(Locking)

- Unlocking
  Push the groove of the locking device with a tool that has a slender tip in the direction of the arrow until the device is locked.

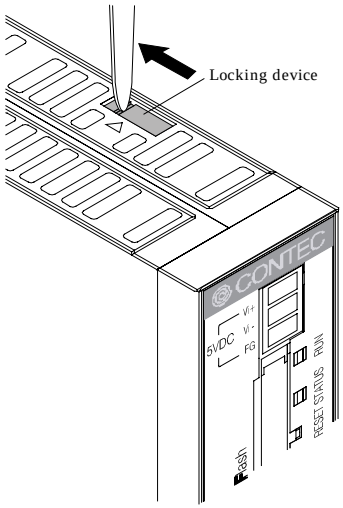


Figure 3.3. Operation of Lock for Stack Connections (Unlocking)

Connecting the module

Inserting the stack hook by aligning it with the hook insertion inlet for the other device automatically locks the module. (If a stack connector protective cover is attached, the connection operation should be performed after the cover is removed.)

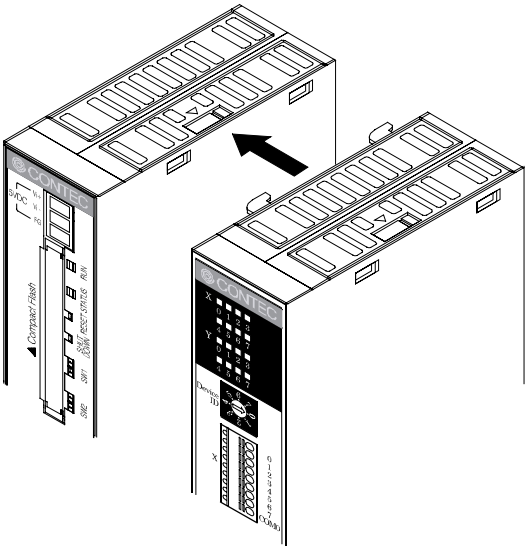


Figure 3.4. Connecting the module

Removing the module

Unlock the locking device at the top and the bottom. Remove the connected module from the hook.

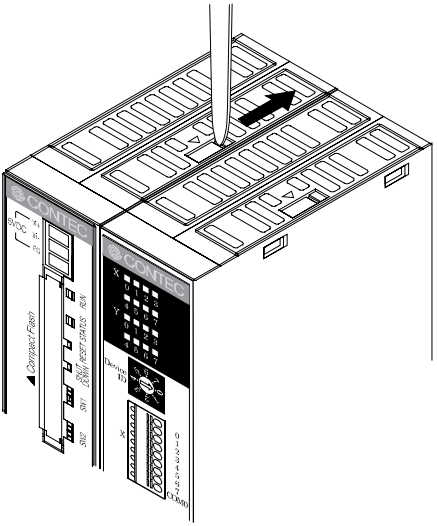


Figure 3.5. Removing the module

Mounting / removing on a DIN Rail

Mounting procedure

(1) Pushing the fixing hook with a flat-blade screwdriver renders it into a lock-enabled condition (this should be done on all connected modules).

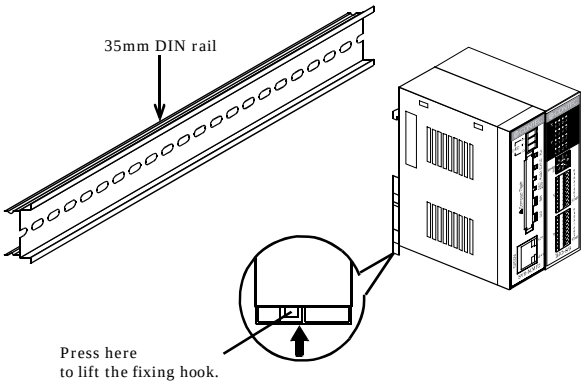


Figure 3.6. Mounting on a DIN Rail ***< 1 / 3 >***

(2) Hook the unit (an object consisting of a controller and a module) from the upper part of the DIN rail, and press the lower part of the unit onto the DIN rail.

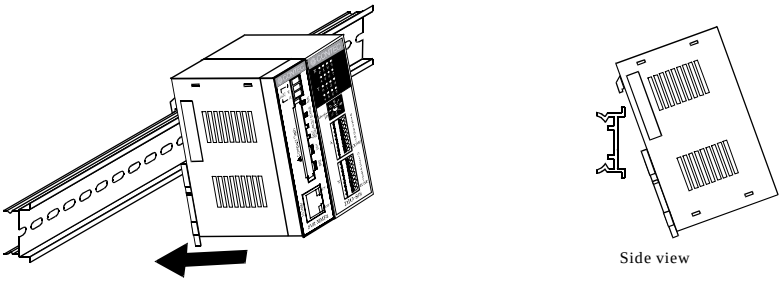


Figure 3.6. Mounting on a DIN Rail ***< 2 / 3 >***

(3) The fixing hook is automatically locked, and the module can be mounted in one-touch.

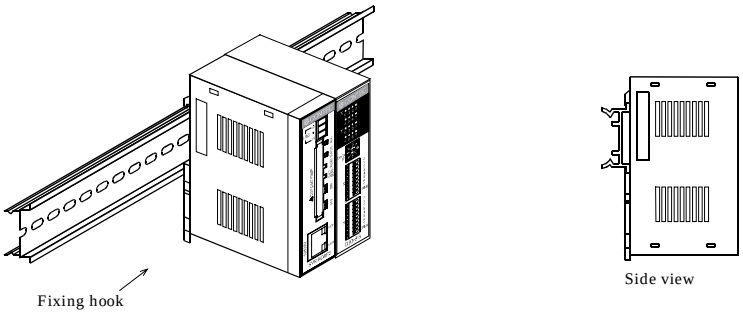


Figure 3.6. Mounting on a DIN Rail ***< 3 / 3 >***

Removal procedure

(1) Lower the fixing hook for the unit to unlock it. (This operation should be performed on all connected modules.)

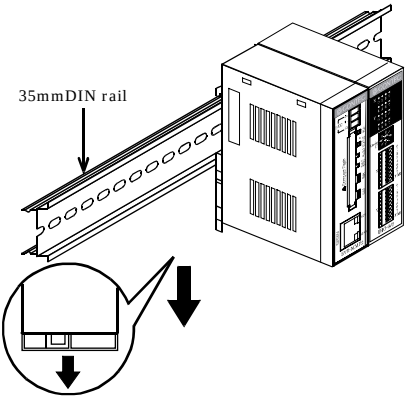


Figure 3.7. Removing the Module from the DIN Rail ***< 1 / 3 >***

(2) With the fixing hook unlocked, pull the lower part of the unit toward you.

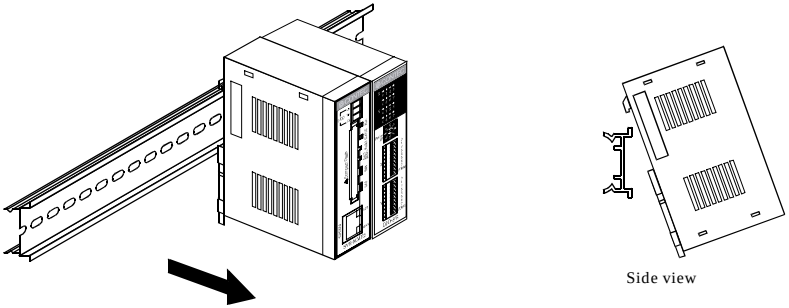


Figure 3.7. Removing the Module from the DIN Rail ***< 2 / 3 >***

(3) By lifting the unit, you can easily remove it from the DIN rail.

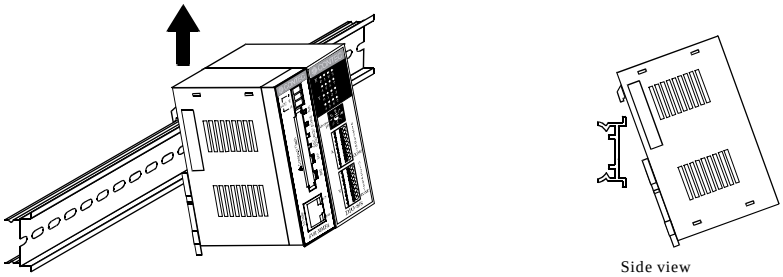


Figure 3.7. Removing the Module from the DIN Rail ***< 3 / 3 >***

⚠ CAUTION

Any operation involving the disconnection of modules in a unit (in which multiple modules are connected) that is attached to a DIN rail should be performed after the unit is removed from the DIN rail.

Connection Method

Supplying the Power to the Controller Module

(1) The DC-DC power supply unit and the controller module can be cable-connected using the detachable connector that is provided on either the unit face or module face. Use a cable no longer than 50cm (AWG24 - 16). (No longer than 20cm for AWG28 and no longer than 35cm for AWG26). (compatible cables: AWG28 - 16).

⚠ CAUTION

The power for the device module is supplied from the stack connector.

The power supply from the stack connector is 5.0VDC/3A. Ensure that the total current consumption of the connected devices does not exceed 3A.

Power supply input requirements for the SVR-MMF2(FIT) : 5.0VDC±5%, 0.5A(Max.)

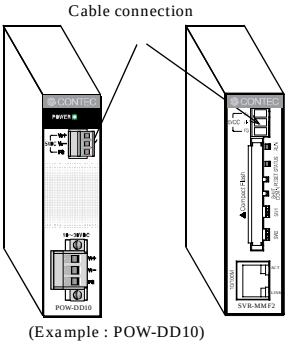


Figure 3.8. Connecting the Controller Module to the DC-DC Power Supply Unit

Table 3.1. Current consumption

Product type	Module species	Current consumption (5.0VDC)
DIO-8/8(FIT)GY	Isolated Digital Input/Output Module (12 - 24VDC)	0.15A
DI-16(FIT)GY	Isolated Digital Input Module (12 - 24VDC)	0.15A
DO-16(FIT)GY	Isolated Digital Output Module (12 - 48VDC)	0.15A
DIO-8/8H(FIT)GY	Isolated Digital Input/Output Module (36 - 48VDC)	0.15A
DI-16H(FIT)GY	Isolated Digital Input Module (36 - 48VDC)	0.15A
DIO-4/4(FIT)GY	Isolated Digital Input/Output Module (input : 12 - 24VDC, output : 12 - 48VDC)	0.15A
DI-8(FIT)GY	Isolated Digital Input Module (12 - 24VDC)	0.15A
DO-8(FIT)GY	Isolated Digital Output Module (12 - 48VDC)	0.15A
DO-8D(FIT)GY	Un-isolated Bi-Directional Digital Input/Output Module	0.15A
DIO-16/16(FIT)GY	Isolated Digital Input/Output Module (12 - 24VDC)	0.15A
DI-32(FIT)GY	Isolated Digital Input Module (12 - 24VDC)	0.15A
DO-32(FIT)GY	Isolated Digital Output Module (12 - 48VDC)	0.15A
AD12-8(FIT)GY	Isolated Analog Input Module	0.35A
AD16-4(FIT)GY	Isolated High-Resolution Analog Input Module	0.30A
DAI12-4(FIT)GY	Isolated Analog Output Module	0.40A
DAI16-4(FIT)GY	Isolated High-Resolution Analog Output Module	0.50A
CNT24-2(FIT)GY	24Bits Isolated Up-Counter Module(2Ch, 5 - 12VDC)	0.15A
CNT16-8(FIT)GY	16Bits Isolated Up-Counter Module(8Ch, 12 - 24VDC)	0.15A
CNT16-8L(FIT)GY	16Bits Isolated Up-Counter Module(8Ch, 5VDC)	0.15A
COM-2(FIT)GY	Serial Communication Module(RS-232C) *note1	0.10A
COM-1PD(FIT)GY	Serial Communication Module(RS-422A/RS-485) *note1	0.30A
PTI-4(FIT)GY	Input Module for Pt100 Thermo-sensor	0.50A
RRY-4(FIT)GY	Reed Relay Output Module	0.15A

⚠ CAUTION

Take account of the internal current consumption when connecting to a control module. Operation is not guaranteed if the total current exceeds the capacity of the power supply unit. Refer to the controller module's manual for details.

4. System Setup

A guide to the system setup procedure is contained on the supplied CD-ROM. Please refer to the Readmeu.htm file on the CD-ROM for details.

Summary Manual

SVR-MMF2(FIT)

Describes how to perform monitoring from a Web browser on a Windows PC assuming a the unit has its default settings and is connected to a DIO-8/8(FIT)GY isolated digital I/O module.

Required devices

SVR-MMF2(FIT) : Default factory IP address 10.1.1.1 Subnetmask 255.0.0.0

Module devices of the DIO-8/8(FIT)GY,etc.

Power supply adapter (POA-AD22, or similar) for above units

Windows PC Note: Please use version 5.x or later of Internet Explorer.

LAN Cable(Cross connection or connection via a hub).

Preparation

The output status of the DIO-8/8(FIT)GY is indicated by LEDs on the unit. To test the input status, connect an appropriate external circuit (a DC power supply is required).

Test procedure

1. Connect the SVR-MMF2(FIT) and DIO-8/8(FIT)GY via a stack connection.
   Set switches, etc. : SVR-MMF2(FIT)
   DIO-8/8(FIT)GY Device ID : 0
2. Connect the Windows PC and SVR-MMF2(FIT) either via a hub or directly using a crossed LAN cable.
3. Turn on the SVR-MMF2(FIT) .
   After a short time, LED1 starts blinking (normal operation).
4. Boot the Windows PC and start the Web browser.
   Notes) Ensure that the network settings on the Windows PC match the IP network class.
   Ex. IP address : 10.1.1.2(,etc) Subnetmask : 255.0.0.0
5. Next, setup the Web browser (see below) if an "unable to display page" message appears when you enter "http://10.1.1.1" into the address field of the Web browser,
   Go to Tools => Internet Options => Connection => Local Area Network (LAN) Settings => LAN Settings => Proxy Server and clear the "Use proxy server on LAN" check box.
   (Alternatively, you can also use ping 10.1.1.1 or similar to check the network connection.)

6. When the main menu of the SVR-MMF2(FIT) appears :
   User name : mmf
   Password : Enter "mmf" and press "Send" (use standard alphanumeric characters). (Refer to Page10, Table 2.2.)
7. When the menu appears, click "Create monitoring" in the system monitoring area.
   Click Page01 "Select".
8. Create and display monitoring screen(refer to the system setup guide).
   1) Select SWITCH from the items at the bottom of the screen.
   2) Click somewhere on the screen to place the switch object. (If you click more than once, a new object will appear for each click. In this case, use [Operation] => [Delete] to delete any objects you do not need.)
   3) Select [Operation] => [Property] from the bottom of the screen and click the displayed buttons to display the properties. Modify the following values.
      1. Input/Output : Change "Input value" to "Output value".
      2. Group ID : Change "Group ID" from 0 => 9.
         Notes) The local devices stack-connected to the SVR-MMF2(FIT) must be set with Group ID = 9.
         (=> System setup guide)
      3. bit : 0(select the bit0 of DIO)
         Clicking OK changes the switch from a circle (input) to a square (output).
   4) Select [Operation] => [Operation] from the bottom of the screen.
      Check that clicking the switch changes it from OFF to ON and causes the "0" on DIO LED Y to illuminate.
   5) Similarly, to view the input state, select Item : SWITCH, or select Seg7 (7 segment) and set the same settings.
      Notes) Set "Group ID" to 0 => 9.
      The 7Seg can only display decimal (hexadecimal display is not available.)
   6) Item : Display "Status" to show the device status.
      You can save these settings in the SVR-MMF2(FIT) using "Save" at the top of the screen.

5. Setup Troubleshooting

Use the following procedures if you encounter problems using the unit.

(1) Check the front panel LEDs.
The RUN and STATUS LEDs are located on the front panel.

- Check that the RUN LED is blinking.
- Check that the STATUS LED is off.
  Check that the correct power supply is being provided to the unit. Refer to “Supplying the Power to the Controller Module” in “Chapter 3 Hardware Setup”.

(2) Check the network port LED.
Check the UTP connector LED on the front panel.
The LINK LED illuminates when the network cable is correctly connected to the hub. If not illuminated, refer to “Chapter 2 Module Nomenclature and Settings” and check the connection.
The ACT LED blinks when communication via the network port is in progress.

(3) Use the PING command on a host computer to check if the unit responds.
Ping the IP address assigned to this unit.
If the unit is operating, it should respond.

Example: When the device IP address is 10.1.1.1, the following should be displayed:

```
ping 10.1.1.1<Enter>:
Reply from 10.1.1.1: bytes=32 time<10ms TTL=255
Reply from 10.1.1.1: bytes=32 time<10ms TTL=255
Reply from 10.1.1.1: bytes=32 time<10ms TTL=255
```

If you do not know the unit’s IP address, you can restore the factory default setting by holding up the “SW2” switch when turning on the power.

The RUN LED and STATUS LED start blinking together. The LEDs stop blinking when initialization completes. Turn off the power and then set the SW2 back to the lower position.

⚠ CAUTION

This also resets the other settings.

(4) If the unit does not accept the user name and password when connecting from a browser on a host computer, remember that the user name and password are case sensitive. Check that the Caps Lock is off then enter again.

You can restore the default factory settings by setting SW2 to the up position and turning on the power, for example if you have forgotten the user name or password set for the device.

The RUN LED and STATUS LED start blinking together. The LEDs stop blinking when initialization completes. Turn off the power and then set the SW2 back to the lower position.

⚠ CAUTION

This also resets the other settings.

(5) Refer to the "System Setup Guide" for details of the settings.

6. Appendix

System Reference

Product Specifications

Table 6.1. Function Specifications

Item		Specification
Loading CPU		SH-4 240MHz
Memory		Flash ROM : 8Mbyte(64Mbit) SDRAM : 64Mbyte(512Mbit)
LAN	I/F	Ethernet 100BASE-TX/10BASE-T RJ-45 connector
	Controller	10/100BASE-TX controller DP83815 made by the National Semiconductor Transmitting : 2Kbyte, Receiving : in-2Kbyte Buffer Supported Full-Duplex
F&eIT I/F		Connecting the F&eIT Series Module
Number of connecting devices		8 units (Max.) *1
Module connecting method		Connect device modules directly to the side of the SVR-MMF2(FIT) . The connection mechanism is a standard feature on the SVR-MMF2(FIT)
RTC		Lithium battery back-up life expectancy : When no power supplied : 10 years or more, When power supplied : about 6 years(25°C) Accuracy of realtime clock : Error of less than one minute per month
Rated input voltage		Supply 5VDC +/-5% to the two-piece power supply input (detachable) connector on the front of the unit. Use of a F&eIT series power supply unit is recommended. Alternatively use a standard stabilized power supply.
Current consumption		0.5A(Max.) *2 (This does not include any current supplied to device units.)
FG pin		An FG terminal is provided on the power supply input connector
External dimension(mm)		25.2(W) x 64.7(D) x 94.0(H) (No protrusion.)
Weight		100g
Installing method		One-touch connection to 35mm DIN rails (standard connection mechanism provided in the system)

*1 : Ensure that the sum of the maximum current consumptions for each unit does not exceed the rated current output of the power supply unit.

*2 : The power supply to the device modules is supplied via the stack connector. However, note that the maximum current capacity of the stack connector is 3.0A (Max.).

Table 6.2. Installation Environment Requirements

Item		Requirement description
Operating temperature		0 - 50°C
Storage temperature		-10 - 60°C
Operating humidity		10 - 90%RH (No condensation)
Floating dust particles		Not to be excessive
Corrosive gases		None
Line-Noise resistance	Line-noise *3	AC line/2kV, Signal line/1kV (IEC1000-4-4Level 3, EN61000-4-4Level 3)
	Static electricity resistance	Contact discharge/4kV (IEC1000-4-2Level 2, EN61000-4-2Level 2) Atmospheric discharge/8kV (IEC1000-4-2Level 3, EN61000-4-2Level 3)
Vibration resistance	Sweep resistance	10 - 57Hz/semi-amplitude 0.15mm, 57 - 150Hz/2.0G 40minutes each in X, Y, and Z directions (JIS C0040-compliant, IEC68-2-6-compliant)
Impact resistance		15G half-sine shock for 11ms in X, Y, and Z directions (JIS C0041-compliant, IEC68-2-27-compliant)
Ground		D-type ground(old the third-type ground)

*3 When using a POW-AD22GY

External dimensions

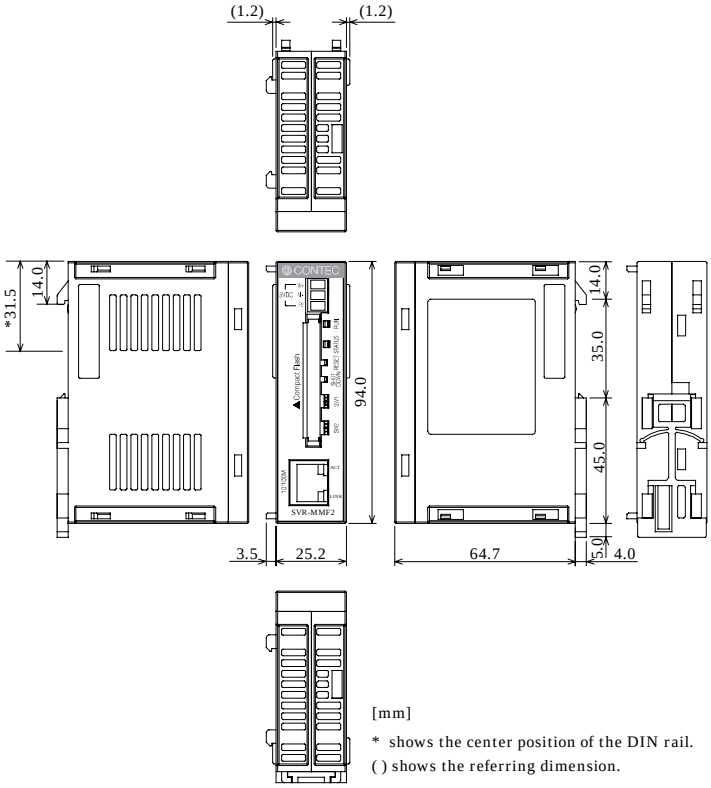


Figure 6.1. External dimensions

SVR-MMF2(FIT)

Hardware Setup Guide

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